Success Story



Excellence **Environmental** Resource sponsored by HQ Air Force Center Base-level Pollution Prevention

for



Spotlight	On:
Offutt A	FB

"The Sun never sets on the Fightin' Fifty-Fifth"

Offutt Air Force Base (AFB), located approximately ten miles south of Omaha, Nebraska and encompassing 4,063 acres, began its long history in the late 1800's as an Army installation. In 1948, it was transferred to the Department of the Air Force and officially became known as Offutt AFB. With Air Force reorganization in June 1992, Strategic Air Command stood down, U.S. Strategic Command was created, and operational control of Offutt AFB was transferred to Air Combat Command (ACC). Today, Offutt AFB's host unit is the 55th Wing and is home to several other units including: United States Strategic Command Headquarters; the Air Force Weather Agency; 97th Intelligence Squadron; 20th Intelligence Squadron; 343rd Recruiting Squadron; and the National Airborne Operations Center.

The base's commitment to pollution prevention, waste reduction, contaminant cleanup, and regulatory compliance is evident; and in recognition of their environmental achievements Offutt AFB has been the recipient of several awards. Additionally, the installation has been designated a Tree City for 14 consecutive years, received the Growth Award for nine consecutive years, and was selected as a Groundwater Guardian by the National Groundwater Foundation for four consecutive years.

Awards for 2000:

- Secretary of Defense Environmental Security Award for Environmental Restoration
- General Thomas D. White Environmental **Restoration Award**
- P General Thomas D. White Environmental Pollution Prevention Award (Non-Industrial)

Environmental Success

Offutt AFB - NOVEMBER 2001

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The Mission

- P Best Civil Engineer Squadron in ACC (Large Installation)
- **P** ACC Recycling Award for Individual Excel-
- P Best Natural Resources Program in ACC
- Top Environmental Restoration Program in **ACC**
- Top Pollution Prevention Program in ACC

Agency Cooperation

The key to Offutt AFB's successful environmental program is the level of interaction between the Environmental Management (EM) Flight and Bioenvironmental Engineering (BEE). The EM and BEE Flights have developed a highly successful partnership that involves each shop providing 100% support to the other. Both parties accomplish a great deal of work in-house, which requires a tremendous amount of cooperation, assistance, and compromises to accomplish the mission at hand.

Furthermore, both EM and BEE are aware of the importance of establishing a one-on-one working relationship with state regulators, and strive to maintain a positive, goal-oriented relationship. The 55th Wing has established a genuine working relationship with the Nebraska Department of Environmental Quality – a true partnering agreement dedicated to meeting Federal and State regulatory requirements. Their belief, "an effective manager must not only be familiar with the program, but must also be familiar with how the regulators enforce the program" is evident in the environmental successes highlighted within this article.

Materials Management

Paper Recycling

Offutt AFB participates in a unique recycling program benefiting both the environment and the community. The Central Area Recycling Exchange (CARE) is a division of ENCOR, an organization dedicated to providing services for the mentally handicapped in a five-county area of Eastern Nebraska. CARE has been collecting the base's paper recyclables for approximately five years. Recyclable paper, donated by Offutt AFB and over 500 other businesses in the community, is collected, sorted, and sent off for recycling. The collecting and sorting processes provide jobs for the mentally handicapped, and the organization uses revenues generated from the recycled paper to support other programs. Offutt AFB, the second largest supplier of paper recyclables to CARE, currently supplies approximately 10 tons of paper per week, which is collected from 48 locations on base.

CARE was a recipient of the White House Closing the Circle Award in 2000. For more information on the CARE program or base recycling, contact Ms. Joan Bowen, DSN 271-4087.

Waste Reduction

Pollution prevention and compliance are important issues at both the vehicle and aircraft maintenance shops at Offutt AFB. Waste reduction practices include:

- → A rag laundering/recycling service the service has been in effect for the past three years and includes weekly pick up of approximately 800 used rags.
- → Used oil recycling Offutt AFB negotiated a contract with Safety Kleen where they are responsible for collecting used oil around the installation for recycling.
- → Antifreeze recycling currently Offutt AFB recycles an estimated 20 gallons of used antifreeze per week. Antifreeze recycling efforts at Offutt AFB are so successful only a minimal amount of new antifreeze is needed.
- → Solvent recycling thinner used in paint guns are just some of the solvents around base that are recycled.

For further information, please contact Mr. Daniel Winter, DSN 271-6216 or 6674 involving Transportation Squadron issues; TSgt Scott Lonnborg, DSN 271-2018 regarding Logistic Group issues; and Mr. Marv Riedel, DSN 271-4087 on used oil.

HAZMART

The Hazardous Materials Pharmacy (HAZ MART) at Offutt AFB provides delivery, receipt, and storage services for 172 shops, and has managed to maintain a remarkable 100% shop and source of supply enrollment in the Environmental Management Information System. The HAZMART's goal, ensuring the correct property is in the correct location while actively utilizing pollution prevention and compliance techniques ,has resulted in the reduction of stocked line items by 72%, from 813 to 315 items; ozone depleting substances (ODSs) by 42%; and volatile organic compound (VOC) emissions by 90%.

Using a bar code inventory process, the shops perform validation on all items two times per year.

Additionally, monthly warehouse validations performed with bar coding equipment has helped to control the balance of items, ensure safety labels are properly affixed to containers, and monitor the shelf life of all items. Good managerial and inventory practices have saved the base over \$165K in total dollar inventory value. The establishment of a free issue area has saved the base an additional \$2.6K through material reuse.



HAZMART

Their "cradle to grave" inventory tracking process was recognized as a best practice in a 2000 ACC Environmental, Safety, and Occupational Health Compliance Assessment and Management Program (ESOHCAMP) finding. For more information concerning the management practices at Offutt's HAZMART, contact SrA Caylene Scott or TSgt Jay Gilliss by e-mail at caylene.scott@offutt.af.mil or jay.gilliss@offutt.af.mil.

Deicing Operations

The 45th Reconnaissance Squadron is retiring the TM 800 series deicing truck. The old deicing TM 800 series truck, although useful in its day, has been far surpassed by the innovative design of the "Global Air Plus." The "Global Air Plus" is a state-of-the-art, safe way to deice aircraft. It comes equipped with an heated operator cab and joystick-like readily accessible maneuvering

controls. There is a second set of controls in the truck cab that can be initiated if something happens to the deicing operator, and a third set of controls on the outside of the truck that can override the cab and operator controls in case of an emergency.

The vehicle can hold approximately 1650 gallons of glycol, and contains heating coils used to warm the glycol prior to dispersal. Application charts are available to advise the operator on the best deicing option to use depending on conditions (wind, precipitation, ice, light snow, wet snow, dry powder). The actual application process is simplified in that the operator has more control over the nozzle height, mobility, angle, and distance of spray. The truck also has a ground hose to allow deicing of lower portions of the aircraft or aerospace ground equipment (AGE). In addition, if a commercial airport requests deicing assistance from Offutt AFB, the "Global Air Plus" boasts a metering device that monitors glycol usage and can determine monetary charges.

Not only will the "Global Air Plus" improve the application process, one of the other expected benefits derived from bringing this new unit on line includes saving money on glycol purchases,



"Global Air Plus"

which is currently \$13.00 per gallon. Using less glycol for a deicing operation not only saves money, it significantly reduces the resulting hazardous waste stream. Another expected benefit is the time required to deice an aircraft will be considerably shortened – saving time and money. One final factor to consider; the cab operator is safe, protected from the elements, and enclosed in a comfortable environment. This unit is currently in test phase at Offutt AFB and is expected to be ready for use Air Force wide by winter 2001. For more information, contact SSgt Mathew Lombardi, or SrA Christopher Rucker, DSN 271-4901.

Waste Inventory Database

Offutt's EM and BEE shops have also teamed to form a more efficient and successful way to manage hazardous waste streams. The two shops coordinated to design and develop a Microsoft Access® waste stream inventory database, which provides readily accessible and current hazardous waste information. The database is managed and maintained in-house, and is configured for easy information update after every annual survey is completed.

Environmental Restoration

BIOWALL

One of the most successful restoration projects at Offutt AFB occurred as a result of a partnership with the Air Force Center for Environmental Excellence (AFCEE). From 1941 through 1965, Building 301, the Martin Bomber Building Plant was used for packaging, shipping aircraft, and assembling guided missiles. During the first five years of the plant's operation, the southwest area of Building 301 was designated as a chemical lab, a cleaning and plating room with an acid pit, a finishing room, and a battery room. These operations are the suspected sources of Trichloroethane (TCE) contamination found in the groundwater in the area of Building 301.

In 1996, the restoration team and AFCEE worked together to conduct a two-week multiphase extraction (MPE) pilot test in tight soils at the "hotspot" of the TCE contamination. The team then inserted a "biowall," which uses a natural organic matter treatment trench and surface amendments for the in situ bioremediation of chlorinated hydrocarbon impacted media. The treatment trench was installed in January 1999 near the base boundary at the Building 301 Environmental Restoration Program (ERP) site. The trench was filled with material comprised of 50% mulch produced at the base and 50% coarse sand. The treatment trench, which is 100-feet long, 1-foot wide, and 23-feet deep, was designed to intercept the groundwater plume. The organic material placed in the trench is expected to ferment, producing hydrogen, which will cause a chemical reaction, known as reductive dechlorination, as the contaminants pass through the trench-treatment wall.

The pilot test was successful and in June of 2001 the "biowall" was extended 400 feet. For more information on the biowall, contact Mr. Phil Cork, DSN 271-4087.

Lead Based Paint

Offutt's lead based paint (LBP) program is managed and run by three personnel who can boast of a 99% completion rate of all base inspections. Along with their duties dictated by the LBP program, they also maintain state certification as risk assessors and management planners. Currently, the base is in the process of remediating both the Wherry and Capehart housing buildings. When demolition began, massive amounts of LBP were revealed.

The BEE personnel identified the LBP and were primarily involved in the removal process. Most of the LBP was found on doors, which have been replaced, and around the windows. BEE personnel have teamed with hospital staff to

ensure correct and complete testing for LBP has been accomplished on the windows. For more information contact Lieutenant Brian Christ at DSN 271-6431.

RAMP

Offutt AFB has the largest number of housing units in the Air Force. BEE shop personnel are responsible for testing buildings for radon as part of the Radon Assessment and Mitigation Program (RAMP). They have completed testing on 2300 units, and of these, 126 units (about 5%) demonstrated results at or above 3.7 picocuries per liter (pCi/L). These units were treated as if they were at or exceeded the Environmental Protection Agency's action limit of 4 pCi/L. Two of the 126 units revealed results above 20 pCi/L and triggered immediate evacuation and installation of active remediation systems.

Offutt AFB currently has 178 more units to test. In addition to testing, new homes are being constructed with built-in exhaust fans to help circulate the air and prevent radon build up. For more information contact Lieutenant Brian Christ at DSN 271-6431.

Natural Resources

Arbor Day

The natural and cultural resources team at Offutt is committed to "greening" the base by ensuring new trees are planted and proper care is given to existing trees on base. In 2000, the National Arbor Day Foundation named Offutt AFB a Tree City USA for the 14th consecutive year. This award was created to recognize environmental improvement and higher levels of tree care in Tree City communities. In order to become a Tree City USA, a community must have a city tree ordinance, a legal tree governing body, a comprehensive urban forestry program, and an Arbor Day observance.

Offutt AFB was the first military base to implement this program and remains the only AFB to have received the Tree City USA Growth Award every year since this recognition was started in 1991.

Erosion Control

Offutt AFB is also utilizing an environmentally friendly approach to control erosion; native grasses are being planted at disturbed sites such as the flight line. Offutt AFB is careful to select local species adapted to the area and that can outcompete exotic plants. Two indigenous species, blue grama and buffalo grass, only grow to approximately five inches tall. The utilization of such local species drastically reduces the frequency of mowing, and may eventually eliminate the need for mowing. This practice of carefully planned species selection of native grasses planted in strategic areas is estimated to save the base approximately \$500K annually.

NEPA

Offutt AFB has involved the base-level Judge Advocate and Public Affairs offices in their National Environmental Policy Act (NEPA) program. These are just two of the groups helping to bring Offutt's NEPA program "up to speed." On average, Offutt develops in-house approximately 25 to 30 environmental baseline surveys (EBSs) and about 10 environmental assessments (EAs) per year. Offutt AFB considers themselves unique in that they write nearly all of their own EBSs and EAs. This helps to ensure more people know what activities are taking place on the base. Offutt AFB follows a very simple but grounded rule: anything that will impact the environment - write an EA. For more information concerning NEPA, please contact Major Marty Hughes, DSN 271-4087.

Compliance Assurance

Storm Water

One of the successes at Offutt AFB resulting from a positive working partnership between the base and the state involves the base National Pollutant Discharge Elimination System (NPDES) permit. There are 18 known storm water outfalls located around base. Nebraska state regulations required the base to conduct toxics (acute and chronic) testing during storm events. This proved to be a problem due to the frequency and time intervals established for collecting those samples. Scheduling sample times also became a problem because they needed to be collected on Monday, Wednesday and Friday, during storm events in order to determine health of the streams.

The EM and BEE Flight invited the state regulatory authority to the base to request a reevaluation of the testing parameter requirements and conduct visual inspections of the outfalls. Base personnel explained their concerns to the regulator, who agreed visual inspections of the outfalls were more than adequate to meet the state's requirements, and incorporated the decision into the base's new NPDES permit. Together, they have coordinated a sampling plan for nine of the outfall locations.

Involving the regulator proved to be an advantageous move for the base and in fact, saved over \$20,000 per year in time, materials, labor, and money that was previously spent on outfall sampling. Base personnel perform evaluations annually to keep the data current on the NPDES permit. For additional information, please contact Major Marty Hughes, DSN 271-4087.

Energy Conservation

Executive Order 13123 calls for a 35% reduction in energy consumption by fiscal year (FY) 2010 to aid in the conservation of natural resources.

Offutt AFB has surpassed the FY 2001 goal of 20% by reaching a 33.2% reduction, and is projected to pass the FY 2010 goal by FY 2002.

The Energy Program at Offutt AFB has implemented infrastructure replacement, energy reduction, and cost saving measures, which include:

- → A lighting upgrade to energy efficient and environmentally sound lighting fixtures cost around \$800K to implement; however, the benefits are well worth the cost. Over 14,000 new lighting tubes have been installed basewide, saving 4,800 megawatt-hours and in excess of \$80,000 annually.
- → A \$2 million infrared heating project for the National Airborne Operations Center (NAOC) has been installed in the Martin Bomber Building and the Bennie Davis Hangar. This allowed for the first-ever full heating of the 1.8 million-square-foot Martin Bomber facilities. This saved \$500K and helped to provide a comfortable working environment to over 1200 personnel in numerous shops.
- → Offutt has replaced 45-year-old, 50% efficient boilers with super high efficiency (90%) boilers, which provide heat to numerous facilities with high dollar and energy savings paybacks.



Boiler Upgrade

- → A water project converting domestic water to well water for use in lawn irrigation saved \$20K in domestic water costs. This project also allowed well water to be used as water for cooling, saving an additional \$30K.
- → In order to discontinue making gas purchases each month, Offutt has initiated a contract to buy gas on the future market for the year. Their gas is paid for in full for the entire next year. This has helped to project accurate budget management and eliminates gas price fluctuations in the winter.
- → The Demand Side Management (DSM) project is financed by local utilities working in conjunction with Offutt AFB. Offutt AFB curtails electric consumption at peak times by augmenting with base generators. Cost saving for July alone was in excess of \$20K and the projected annual saving for FY 2001 is around \$145K.

For more information on energy conservation successes, please contact Mr. Peter Rubin or Mr. Dave Dines, DSN 271-5657.

Personnel Training/Safety

Offutt's EM and BEE shops have collaborated to ensure personnel have proper hazardous waste training. An in-house trainer provides hazardous waste training on the first and third Monday of each month, ensuring that approximately 2000 personnel receive mandatory annual training. In addition, base facilities maintain exceptional hazard communication (HAZCOM) programs with established material safety data sheet (MSDS) binders for the different chemical classes used, making MSDS retrieval easy in emergency situations. Their excellent HAZCOM program is evidenced in that all workers demonstrate an extensive knowledge of the chemical hazards associated with their jobs.

Other outstanding environmental programs have not gone unnoticed at Offutt AFB as a result of internal and external Environmental Compliance Assessment and Management Program and Environmental, Safety, and Occupational Health

Compliance Assessment and Management Program findings. For further information concerning outstanding compliance inspections and best management practices, contact Mr. Marv Riedel, DSN 271-4087.



Eye Wash Station

The Mission

Offutt AFB is historically recognized for the production of the B-29 bombers, specifically the "Enola Gay," and over the years, Offutt AFB's operation has included providing a home base for alert bombers and tankers, support for intercontinental ballistic missile sites, and worldwide reconnaissance. Despite multiple operations, the environmental mission of base personnel remains constant – "dedicated to preserving our environment."

Offutt AFB's excellent environmental program is a direct result of interagency cooperation and coordination. The level of interaction between the EM and BEE flights is demonstrated in their successful pollution prevention and regulatory compliance programs. In addition, the environmental mission at Offutt AFB could not be realized without excellent senior leadership support, an active Environmental Protection Committee (EPC), dedicated unit environmental managers, and strong funding support from ACC.

Pollution Prevention Success Stories - Offutt AFB, November 2001

Success stories are a product of PRO-ACT, a service of the Environmental Quality Directorate, Headquarters Air Force Center for Environmental Excellence (HQ AFCEE/EQ), Brooks AFB, Texas. Any comments or suggestions are welcomed and should be directed to PRO-ACT at DSN 240-4240, (800) 233-4356, or pro-act@brooks.af.mil.

